

We claim:

1. An method for creating a nuclear reactor core template, comprising:
selectively assigning, using a graphical user interface providing a graphical representation of a nuclear reactor core, fuel bundle categories to fuel bundle positions in the graphical representation.
2. The method of claim 1, wherein the fuel bundle categories include fresh and locked, the fresh category indicating to insert an unexposed fuel bundle, the locked category indicating that a fuel bundle currently occupying an associated fuel bundle position in an actual nuclear reactor core remains in that position in creating a new nuclear reactor core loading map.
3. The method of claim 2, wherein the fuel bundle categories further include reinserted, the reinserted category indicates to insert a fuel bundle that has been exposed.
4. The method of claim 1, wherein the selectively assigning step includes setting a bundle group amount for a selected one of the fuel bundle categories, and selectively assigning the set bundle group amount of the selected fuel bundle category.
5. The method of claim 1, wherein the selectively assigning step further includes selectively setting a symmetry associated with the set

bundle group amount, the symmetry indicating whether to repeat the selected fuel bundle category symmetrically in one or more quadrants of the graphical representation of the nuclear reactor core.

6. The method of claim 1, wherein

at least one category is fresh, the fresh category indicating to insert an unexposed fuel bundle; and

the selectively assigning step includes assigning a type designation to the fuel bundle positions assigned the fresh fuel bundle category.

7. The method of claim 1, wherein

at least one category is reinserted fuel bundles, the reinserted category indicates to insert a fuel bundle that has been exposed; and

the selectively assigning step including manually assigning a priority to each of the fuel bundle positions assigned the reinserted category, the priority indicating an order for loading exposed fuel bundles based on an attribute of the exposed fuel bundles.

8. The method of claim 1, wherein

at least one category is reinserted fuel bundles; and

the selectively assigning step including automatically assigning a priority to each of the fuel bundle positions assigned the reinserted category, the priority indicating an order for loading exposed fuel bundles based on an attribute of the exposed fuel bundles.

9. A method for creating a nuclear reactor core template, comprising:
editing, using a graphical user interface, a template of a nuclear reactor core.

10. The method of claim 9, wherein the editing step includes changing a fuel bundle category assigned to at least one fuel bundle position in the template.

11. The method of claim 10, wherein the fuel bundle categories include at least one of fresh, locked and reinserted, the fresh category indicating to insert an unexposed fuel bundle, the locked category indicating that a fuel bundle currently occupying an associated fuel bundle position in an actual nuclear reactor core remains in that position in creating a new nuclear reactor core loading map, and the reinserted category indicates to insert a fuel bundle that has been exposed.

12. The method of claim 9, wherein

at least one of the fuel bundle categories is reinserted, the reinserted category indicates to insert a fuel bundle that has been exposed, and each fuel bundle position assigned the reinserted category further assigned a priority; and further comprising:

automatically changing the priority assigned to fuel bundle positions of the reinserted category when the editing of one position

to the reinserted category results in changes to other fuel bundle positions in the reinserted category.

13. The method of claim 9, further comprising:

accessing a database of templates; and
selecting one of the templates for editing.

14. A method for creating a nuclear reactor core template, comprising:

deriving a loading template from a loading map of a selected cycle of nuclear reactor based on user input parameters.

15. The method of claim 14, wherein the deriving step derives the loading template from the loading map of the selected cycle of the nuclear reactor and the loading map of a cycle previous to the selected cycle.

16. An apparatus for creating a nuclear reactor core template comprising:

a graphical user interface; and
a processor controlling the graphical user interface to display a graphical representation of a nuclear reactor core, and to provide a user with graphical tools for at least one of assigning fuel bundle categories to fuel bundle positions in the graphical representation and editing assigned fuel bundle categories to the fuel bundle positions in the graphical representation.